REMARKS

Reconsideration and further examination is respectfully requested in view of the following amendments and remarks.

Claims 1-9 are in this application. Claims 1-6 and 8 have been amended and claim 9 has been added. The amendments to claims 1-6 and 8 will be discussed below. Support for new claim 9 is found on page 3, line 33 of the specification.

The Examiner rejected claims 1-8 under 35 USC 112, second paragraph. Applicants respectfully traverse this rejection.

Claims 1, 3, 5, and 8 have been amended to delete the word "enzyme" after –lipase–.

Parts a) and c) of claim 1 have been amended to delete the word "said".

Part b) of claim 1 has been amended to read --in a ratio in the range of 1:10 to 1:1500 on a mole to mole basis of lipase to ligand–. Support for this amendment is found on page 5, lines 19-21 of the specification. Claim 8 has been amended to include the language –group consisting of–.

Part b) of claim 1 has also been amended to define that the mixture of active lipase and ligand is added to a substrate.

Part c) of claim 1 has been amended to define adding an activator to the combination of the mixture and the substrate. The use of $CaCl_2$ as the activator is the subject of new claim 9.

Claims 2 and 4 have been amended to include Markush language.

There is antecedent basis for the phrase "the mixture" in claim 5 in claim 1.

The substrates used in examples 1-4 have a concentration of 5% w/v.

Claim 6 has been amended to define that the ligand comprises an aromatic boro compound.

In view of the amendment to claim 1, claim 8 further limits claim 1.

Therefore, it is respectfully requested that this rejection be withdrawn.

The Examiner has rejected claims 1-8 under 35 USC 103 (a) as being unpatentable over Vainio et al. or Garner in view of Gargouri et al. and further in view of JP 05001297 ("297-abstract), JP 56015643 ('643-abstract) or Nagoh et al., boyer and Oester et al. and claims 1-8 as being rejected under 35 U.S.C. 103(a) as being unpatentable over Abouakil et al. in view of Vainio et al. or Garner and further in view of Gargouri et al. and JP 05001297 ('297-abstract), JP 56015643 ('643-abstract) or Nagoh et al., Boyer and Oester et al.

Applicants respectfully traverse these rejections.

As noted by the Examiner, Vainio, Garner, Gargouri and Abouakil do not teach rice lipase.

Vainio teaches inhibition of lipoprotein lipase from bovine skimmed milk.

Garner teaches inhibition of porcine pancreatic lipase.

Abouakil teaches lipase from bile milk.,

Gargouri teaches inhibition of pancreatic lipase. Gargouri teaches that a method for deactivation of one lipase cannot be extrapolated to all lipases. See the abstract and pages 329-331 of this reference. As stated at the top of the second column on page 329, "We have studied here the

effect of proteins on the activity of lipases from *Rh. arrhizus* and from *Rh. delemar* on tributyrin. Activity of the former enzyme was not affected by any of the proteins tested, including soybean proteins, at concentrations that inactivate pancreatic lipase. In contrast, lipase from *Rh. delemar* was inactivated by all proteins, except ovalbumin, as indicated by the curves reported in Fig. 4."

Even in the group of microbial lipases, proteins used for deactivation of animal lipases did not deactivate all microbial lipases.

Therefore, it is not obvious from these disclosures of deactivation of animal lipases that rice lipases can be successfully deactivated by these methods.

Although the Examiner has cited JP 05001297, JP 56015643 and Nagoh for their teachings of rice lipase, none of these references disclose or suggest inhibiting the rice lipase.

JP 56015643 discloses a method of preparing hard butter for chocolate manufacturing. This abstract teaches the use of lipase to prepare hard butter which is equal to cacao butter. There is no disclosure or suggestion of inhibiting the lipase in this reference.

JP 05001297 discloses the use of lipase for the preparation of whitening resistant fat compositions. There is no disclosure or suggestion in this reference of inhibiting the rice lipase.

Nagoh teaches a method for producing hard fats. The method is based on interesterification using oils and a lipase. There is no disclosure of suggestion in this reference of inhibiting the rice lipase.

Oester does not disclose or suggest a method for inhibiting rice lipase. In fact, the lipase described by Oester is a fungal lipase.

Applicants submit that given the statements in Gargouri, there is no combination of the cited references that make the claimed invention obvious. It is also submitted that the Examiner is relying on impermissible

hindsight in making these obviousness rejections.

According to MPEP 2141 when applying 35 USC 103, the following tenets of patent law must be adhered to:

> (A) The claimed invention must be considered as a whole; (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and (D) reasonable expectation of success is the standard with which obviousness is determined.

In making this rejection, the Examiner is relying on impermissible hindsight.

A reference must be considered for what it would teach someone skilled in the art at the time the invention was made and not be applied based on "hindsight". See Panduit Corp. V. Dennison Manufacturing Co. 227 USPQ 337, 343 (Fed. Cir. 1985):

> It is impermissible to first ascertain factually what applicants did and then view the prior art in such a manner as to select from the random facts of that art only those which may be modified and then utilized to reconstruct appellants' invention from such prior art.

In making its obviousness determination, a court must view the prior art without reading into that art the patent's teachings. Vandenberg v. Dairy Equipment, 224 U.S.P.Q. 195 (Fed. Cir. 1987) citing In re Sponnoble, 160 U.S.P.Q. 237 (CCPA 1969). In Uniroyal . Rudkin-Wiley, 50 U.S.P.Q.2d 1434, 1438 (Fed. Cir. 1988) the CAFC stated:

> The obviousness standard, while easy to expound, is sometimes difficult to apply. It requires the decision maker to return to the time the invention was made. The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art

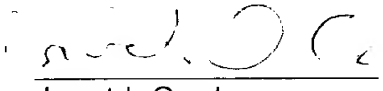
that existed at the time...That which may be clear and thus obvious to a court, with the invention fully diagramed and aided by experts in the field, may have been a breakthrough of substantial dimension when first unveiled [citations omitted]. In this case we are convinced that the district court misapplied the obviousness standard. It has impermissibly used hindsight to reconstruct the claimed invention from prior art with the invention before it and aided by Uniroyal's expert, rather than viewing the invention from the position of a person of ordinary skill at the time it was made. When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself.

None of the references teaching rice lipase teach deactivation of the rice lipase and based on Gargouri, it is clear that the teachings relating to nonplant lipases are not necessarily applicable to plant lipases and rice lipase in particular.

Accordingly, since the Examiner is relying on impermissible hindsight and there is no combination of the cited references that makes the claimed invention obvious, it is respectfully requested that these rejections be withdrawn.

Applicants submit that the present application is in condition for allowance.

Respectfully submitted,



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In the Specification

Please replace Example 3 on page 7 with the following:

EXAMPLE - 3

CONSTITUENTS	QUANTITY
Lipase Concentration	2 mg/ml
Ligand in the reaction Mixture (mole/mole)	1:10
Substrate (5% w/v)	4 ml
[$Cacl_2$] $CaCl_2$	10µl

Please replace Example 4 on page 7 with the following:

EXAMPLE - 4

CONSTITUENTS	QUANTITY
Lipase Concentration	2 mg/ml
Ligand in the reaction Mixture (mole/mole)	1:1500
Substrate (5% w/v)	4 ml
[$Cacl_2$] $CaCl_2$	10µl

In the Claims

Please amend the following claims:

Claim 1 (Amended). A process for the preparation of deactivated rice bran lipase, which comprises:

f) extracting lipase [enzyme] from rice bran and purifying the [said] lipase [enzyme] using a salting out agent to obtain active lipase [enzyme];

g) [preparing a ligand in the ratio of 1:10, 1:100, 1:250, 1:750 and 1:1500 mole to mole ratio of protein to ligand] mixing the active lipase with a ligand in a ratio in the range of 1:10 to 1:1500 on a mole to mole basis of lipase to ligand and adding

the mixture obtained to a substrate;

h) [mixing the said active lipase enzyme and the ligand and adding to it a substrate, followed by the addition of an activator such as $CaCl_2$ in a concentration of 0.1M] adding an activator in a concentration of 0.1M to the combination of the mixture and substrate;

i) [incubating the mixture thus obtained for 4 hours to check for activity] incubating the mixture thus obtained for 4 hours; and

j) separating the deactivated lipase [enzyme] from the mixture.

Claim 2 (Amended). A process as claimed in claim 1 wherein the salting out agent is selected from the group consisting of ammonium sulfate and $CaCl_2$.

Claim 3 (Amended). A process as claimed in claim 1 wherein the purification of the lipase [enzyme] in step (a) of the process is done by dialysis and size-exclusion chromatography.

Claim 4 (Amended). A process a claimed in claim 1 wherein the substrate is selected from the group consisting of triacetin and tributyrin.

Claim 5 (Amended). A process as claimed in claim 1 wherein the mixture of the active lipase [enzyme] and the ligand is added to the substrate at a concentration of at least 5%.

Claim 6 (Amended). A process as claimed in claim 1 wherein the ligand [used] comprises an aromatic boro compound.

Claim 8 (Amended). A process as claimed in claim 1 wherein the lipase [enzyme] is mixed with the ligand in a ratio selected from the group consisting of 1:10, 1:100, 1:250, 1:750 and 1:1500 on a mole to mole basis of [protein] lipase to ligand.

Please add the following claim:

Claim 9. A process as claimed in claim 1 wherein the activator comprises $CaCl_2$.